USGS

Sound Waves

Coastal Science and Research News from Across the USGS

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Research

Group Aims to Distinguish Tsunami Deposits from Large-Storm Deposits in the Geologic Record

By Guy Gelfenbaum

Bob Morton (St. Petersburg, FL) recently teamed up with **Bruce Jaffe** (Santa Cruz, CA), **Bruce Richmond** (Santa Cruz, CA), and **Guy Gelfenbaum** (Menlo Park, CA) to tackle the problem of trying to distinguish tsunami deposits from storm deposits in the geologic record. Both tsunamis and large storms, particularly hurricanes, are capable of inundating coastal regions and depositing sandy sediment over broad areas landward of the beach. Correctly identifying a sandy bed in the geologic record as either a tsunami or storm deposit is important for an accurate assessment of the hazard frequency. Where historical records of past storm or tsunami events are short or nonexistent, interpreting the geologic record may be the only way to identify recurrence interval, or some statistical measure of the probability of future events.

The group met recently in Santa Cruz, CA, to compare observations and to establish sedimentologic and stratigraphic criteria for field-testing the differences between depositional records of the two types of events. Despite some differences between the flow conditions of a tsunami and a hurricane, the deposits from these events display many similar features. The researchers are identifying and cataloguing these features by examining the deposits from recent tsunamis in Papua New Guinea (1998) and Peru (2001) and by comparing them with deposits in the Gulf Coast region from Hurricanes Carla (1961), Camille (1969), and Alicia (1983) and with deposits from the Ash Wednesday northeaster (1962) that devastated much of the east coast of the United States.

The group's preliminary research was presented last July in a paper titled "Distinguishing Tsunami and Hurricane Overwash Deposits" in a special session, "Tsunami, Storm Surge, Relative Sea Level, and Coastal Change" at the 2002 Western Pacific Geophysics Meeting in Wellington, New Zealand. After the meeting, **Guy** and **Bob** examined beaches near Christchurch before joining **James Goff** in the field to look at coastal overwash deposits. **Goff** is a coastal geologist from Christchurch who has published several papers on tsunami hazards in New Zealand.

Okarito Lagoon, on the west coast of the South Island of New Zealand.

***Bob Morton** (left) and **James Goff** examine sediment in a push core from Okarito Lagoon and react to finding a possible ancient-tsunami deposit.*

The three traveled from Christchurch across the Southern Alps (and the Alpine Fault) to the west coast of the South Island, where they stayed in the former gold-mining village of Okarito. Most of the next several days were spent examining push cores and digging small trenches in and around Okarito Lagoon. The lagoon is separated from the Pacific Ocean by a narrow sandy barrier with a maximum elevation of only 3 to 4 m above sea level.

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Submission Guidelines

Deadline: The deadline for news items and publication lists for the November issue of *Sound Waves* is Wednesday, October 16.
Publications: When new publications or products are released, please notify the editor with a full reference and a bulleted summary or description.
Images: Please submit all images at publication size (column, 2-column, or page width). Resolution of 200 to 300 dpi (dots per inch) is best. Adobe Illustrator© files or EPS files work well with vector files (such as graphs or diagrams). TIFF and JPEG files work well with raster files (photographs or rasterized vector files).

U.S. Geological Survey
Earth Science Information Sources:

Need to find natural-science data or information? Visit the USGS Frequently Asked Questions (FAQ's) at URL **http://ask.usgs.gov/faqs.html**

Can't find the answer to your question on the Web? Call 1-888-ASK-USGS

Want to e-mail your question to the USGS? Send it to this address: ask@usgs.gov

(Tsunami Deposits continued from page 1)

Previous work in the area by **Goff** and others identified upward-fining deposits believed to be from a large local tsunami that occurred more than 100 years ago. As can be attested to firsthand, however, distinguishing tsunami deposits from storm deposits in the geologic record can be especially difficult, and lively discussions ensued about the scientific interpretations and their implications.

Future plans call for conducting field studies in places, such as Puerto Rico, where both tsunami and storm deposits are preserved, and for collecting additional field data after any major modern tsunami or hurricane.❁

USGS Helps the Monterey Bay National Marine Sanctuary Celebrate Its Tenth Anniversary

By Helen Gibbons

The Monterey Bay National Marine Sanctuary turned 10 this year and celebrated with a series of events in September. The largest of these was the Oceans Fair, held in Monterey, CA, on September 21. The U.S. Geological Survey (USGS) was represented at the Oceans Fair by members of the USGS' Coastal and Marine Geology Program (CMGP), staffing a large booth filled with interactive displays for people of all ages. Visitors could

- assemble three-dimensional models of Monterey Canyon constructed from clear-plastic, stackable salad trays,
- examine sand samples from the California coast and beyond,
- gaze at foraminifers and other tiny inhabitants of the bay through microscopes,
- move a model of the San Gregorio fault backward in time to see how the fault may have influenced the shape of the bay floor, and
- color black-and-white drawings of foraminifers and a black-and-white poster about watersheds.

Two display racks offered selected USGS publications from CMGP and other programs. The handouts went like hotcakes, carried off in the ever-popular plastic bags imprinted with the USGS visual identifier. Late in the fair, visitors were still approaching the booth asking, "Is this the place where you get the bags?" and staffers who wandered far from the booth on lunch breaks saw many people carrying USGS bags.

The USGS booth is set up and ready for visitors, thanks to early arrivals (left to right) ***Mary McGann, Helen Gibbons, Carolyn Degnan****, and* ***Nick Degnan****.*

The booth attracted a steady stream of visitors, from small children who wanted to color the foraminifer drawings, through kids and parents who wanted to look through the microscopes and play with the models, to scientists who wanted to discuss the latest ideas on the geologic evolution of the Monterey Bay region. We were fortunate to have a diverse staff of CMGP folks who were able to accom-

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modate them all! The participants were **Roberto Anima**, **Ed Clifton**, **Carolyn Degnan**, **Nick Degnan**, **Steve Eittreim**, **Helen Gibbons**, **Alma Gonzalez**, **Gerry Hatcher**, **Juliet Kinney**, **Tara Kneeshaw**, **Kristen Lee**, **Mary McGann**, **Rani Nandiwada**, and **Jane Reid**.

The evening before the Oceans Fair, USGS scientist **Steve Eittreim** joined other scientists and policymakers in a forum inspired by the anniversary, entitled "Taking Stock of Our Oceans—Reflections on the Past and Projections for the Future." Led by **Leon Panetta**, former Congressman from Monterey, the discussion panel included **Jean Michel Cousteau** (son of ocean explorer **Jacques Cousteau** and founder of the Ocean Futures Society, a nonprofit marine conservation and education organization) and **Julie Packard** (President of Monterey Bay Aquarium).

The weather for the weekend was delightful, and a good time was had by all.❁

Two young visitors enjoy the coloring table.

Three-dimensional model of Monterey Canyon made from stacking salad trays.

Mom watches as her daughter inspects a three-dimensional salad-tray model of Monterey Canyon.

Visitors use reflecting microscopes to get close-up views of rock and sand samples (near scope) and tiny fish, crabs, starfish, and other creatures (middle scope). (The far scope featured foraminifers.)

The microscopes intrigued parents, too.

Woods Hole Field Center to Celebrate Earth Science Week

By Kate Visser

National Earth Science Week runs from October 13 to 19, and the U.S. Geological Survey (USGS) in Woods Hole, MA, is inviting local students (in kindergarten through eighth grade), along with parents and teachers, to an Earth Science Week celebration entitled "GeoFest: Earth Adventures." Earth Science Week is celebrated annually to increase public awareness and understanding of the Earth sciences and to give people of all ages the opportunity to discover the connection between their lives and the Earth. The USGS' GeoFest will be held at the Carriage House next to the Woods Hole Field Center on Saturday, October 26, 2002.

The USGS hopes to expose students to Earth-science concepts in a fun and exciting way. The event will include numerous hands-on exhibits created and attended by USGS scientists, engineers, and technicians. Geologists will lead a short "geology walk" along part of the Woods Hole Bike Path. Please contact **Kate Visser** at kvisser@usgs.gov or (508) 457-2331 if you'd like to be a part of the event!❁

Chinese Scientists Visit USGS Gas-Hydrates Labs

By Debbie Hutchinson and Tom Lorenson

With Earth's largest population, the People's Republic of China is exploring alternative sources of energy to sustain them into the future. Gas hydrates, which are interpreted to exist offshore China in the South and East China Seas, offer such a potential unexplored and unexploited energy source. On September 9 and 10, three Chinese scientists from the Qingdao Institute of Marine Geology, a marine-research arm of the China Geological Survey, visited the U.S. Geological Survey (USGS)'s gas-hydrate facility in Woods Hole, MA, to learn more about hydrates and possibly establish a cooperative research program. The following week, on September 17, the visitors spent time at the labs of USGS scientists **Keith Kvenvolden**, **Tom Lorenson**, **Steve Kirby**, and **Laura Stern** in Menlo Park, CA. The Chinese delegation also visited with gas-hydrate experts in Canada (before their Woods Hole visit) and at Stanford University (before their Menlo Park visit).

A sign of the Chinese determination to develop a workable gas-hydrate research program, even though they are recent entrants in such research, was evident in the video the Chinese scientists presented about their gas-hydrate program: a large-scale model of a methane hydrate molecule welcomes visitors outside the front door of the Qingdao Institute! During their visit, **Professor Ye Yuguang**, head of the Chinese Hydrates Lab, showed how gas hydrates are made in their facility; **Zhang Xun-Hua**, Director of the Department of Geology Research, talked about Chinese offshore geophysical data; and **He Qixiang**, emeritus and head of the delegation, explored numerous possibilities for cooperation.

Discussions in Woods Hole covered topics about gas-hydrate formation and preservation, the GHASTLI (Gas Hydrate and Sediment Testing Laboratory Instrument) lab, the HyFI (Hydrates From Ice) lab, results from last summer's giant-piston-coring cruise on the French research vessel *Marion Dufresne* [see article in Sept. 2002 *Sound Waves*], and the geologic history of and gas-hydrate occurrence at the Blake Ridge offshore South Carolina. In Menlo Park, a discussion about the geochemistry of gas hydrates from around the world was followed by handling both artificial gas hydrate and natural gas hydrate from the Gulf of Mexico. ❁

*With the three Chinese visitors, the entire Woods Hole gas-hydrate group assembled in **Bill Dillon's** office for a photograph. From left to right, in the back row, **Bill Dillon**, **Dave Mason**, and **Bill Waite**; and in the front row, **Ye Yuguang**, **Zhang Xun-Hua**, **Bill Winters**, **Olya Boldina**, **He Qixiang**, and **Debbie Hutchinson**.*

***Laura Stern** describes recent results of deep-sea dissolution of gas hydrate in Monterey Canyon. From left to right: **Laura Stern**, **Zhang Xun-Hua**, **He Qixiang**, **Ye Yuguang**, **Jennifer Dougherty**, and **Keith Kvenvolden**.*

Blacks In Government (BIG) Conference in Atlanta, GA

By Glynn Williams

The 2002 Blacks In Government (BIG) 24th Annual National Training Conference was held in Atlanta, GA, during the last week of August. **Glynn Williams** attended the conference as a BIG member-delegate representing the U.S. Geological Survey's Woods Hole Field Center. BIG is in its 26th year as a public-service-employee advocacy, training, and professional-development association; it has 3.2 million African-American public-sector employees at the Federal, State, and local levels. It was exciting to listen and to learn about changing government practices, policies, and attitudes pertaining to diversity in American institutions and the American workforce (in the private, corporate, and, especially, government sectors). A tribute to **Janice M. Scott**, who was killed last September 11, 2001, at the Pentagon, was also given. For further details, please refer to the BIG live-broadcast and replay Web site at URL **http://www.broadcasturban.net/webcast/big/tribute.htm**.

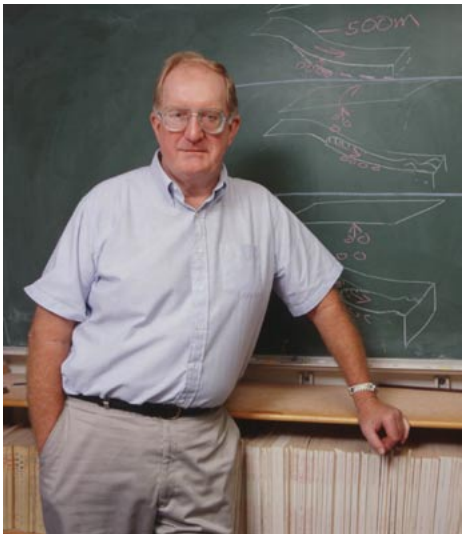
Briefing Congress on Coastal Hazards, Coastal Science, and Alternatives to Coastal Protection

By Ellen Mecray, Jeff Williams, and Barbara Wainman

Coastal hazards in the form of storm erosion, flooding, and accelerated sea-level rise as a result of climate change are serious issues for society. With more than 160 million people living in the coastal zone, and $3 trillion in development located along the East and Gulf Coast regions, new techniques and alternatives for managing coastal sand and mitigating erosion are becoming increasingly important. Congress and the Bush administration are working with coastal States and local jurisdictions to address these issues. On September 3, 2002, a science briefing on coastal-protection impacts and alternatives, sponsored by **Senators Lincoln D. Chafee** (RI) and **John Kerry** (MA), was held in the U.S. Capitol for members of Congress and staff. **Jeff Williams** (Woods Hole Field Center) was an invited speaker. The focus of **Jeff's** talk was on the natural processes of sediment transport and coastal change, impacts of manmade alterations to the coastal zone, and the importance of using coastal science to develop strategies for better management and protection of coastal environments in the long term.

Bill Dillon Receives Distinguished Service Award

By Debbie Hutchinson



***Bill Dillon**, recipient of the Department of the Interior's Distinguished Service Award.*

During the September 4 Department of the Interior awards ceremony in Washington, DC, U.S. Geological Survey (USGS) senior researcher **Bill Dillon** was one of a small group to receive the Department's highest merit award, the Distinguished Service Award. The award was given in recognition of **Bill's** exceptional accomplishments and leadership in the fields of continental-margin geology and marine-gas-hydrate research. The citation speaks eloquently of **Bill's** many contributions:

> **Dr. Dillon** is an internationally recognized authority on continental-margin evolution, and particularly on marine gas hydrates and their geological origin. In the 1970's, he was among the first researchers to recognize the occurrence of gas hydrates off the East Coast of the United States. His career studying these elusive and widespread methane deposits has helped pioneer new fields of research: the distribution of gas hydrate, controls on its accumulation, its potential role in global change, its effect on sea-floor stability, its hazard to drilling, and its resource potential as an energy source. For much of the last 25 years, he has been the main proponent of gas-hydrate studies in USGS. He has led researchers from within the Department of Energy, the Office of Naval Research, and the National Science Foundation in field efforts for an active at-sea program, all of which has resulted in major strides forward in scientific knowledge. He has briefed Senate staffers and testified in hearings of the U.S. House

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of Representatives on H.R. 1753 (Methane Hydrate Research and Development Act of 2000), which specifies that Department of Energy support USGS and other groups to conduct gas-hydrate research. He has guided national steering committees on gas-hydrate research and hosted international government visitors seeking to develop their own federal research programs in gas hydrates. He has been instrumental in involving numerous scientists in gas-hydrate research, both within and outside of USGS. In addition, **Dr. Dillon** is an acknowledged expert and leader in studies of continental-margin structure and development, primarily for the southeastern U.S. Atlantic margin, but also for the continental margins of West Africa, Spain, and Central America. He has worked as a leader in Caribbean geology and tectonics, where his expertise includes the complex faulting around Haiti, the origin of the Yucatan Basin, and plate interactions along the northern Greater Antilles.

Congratulations to **Bill** for his outstanding research accomplishments and service to the scientific community. ❁

Distinguished Service Award Presented to Bill Normark

By Helen Gibbons

U.S. Geological Survey (USGS) research geologist **Bill Normark** received the Department of the Interior's Distinguished Service Award, the highest Departmental award that can be granted a career employee. The award was presented on September 4 at the Department of the Interior in Washington, DC, and acknowledged on September 24 at the USGS' 2002 Western Region Awards Ceremony in Menlo Park, CA. The award honors **Bill** for the excellence of his scientific contributions and, in particular, for his pioneering research on deep-sea-fan systems.

***Bill Normark**, recipient of the Department of the Interior's Distinguished Service Award, is congratulated by USGS Deputy Director **Kathy Clement** at the USGS' 2002 Western Region Awards Ceremony.*

Bill's citation reads as follows:

Dr. Normark's most significant scientific impact is linked to his pioneering work on defining the morphological and facies evolution of deep-sea-fan systems. This research brought great benefit to the petroleum industry in guiding their exploration of clastic depositional systems for energy resources. Although the principal focus of his research has been on turbidite systems, his nearly 300 published works reveal a thematic sweep of expertise that also encompasses sea-floor igneous processes, hydrothermal circulation, polymetallic sulfide deposition, ocean-basin and ocean-margin tectonism, spreading-ridge-growth processes, catastrophic collapse of oceanic islands, and the effects of earthquakes on continental slopes and their flanking basins. **Dr. Normark's** remarkable range of talents and skills has established him among the ranks of those Earth scientists most recognized internationally as explorers and creators of frontier Earth-science knowledge. As the Regional Geologist in the Western Region, **Dr. Normark** led a bureau-level benchmark team in the design of a "seamless" U.S. Geological Survey that would best provide timely, accurate, and unbiased Earth-science information to the people of the United States. For his outstanding service to the U.S. Geological Survey as a leader of research in marine geology, **Dr. William R. Normark** is granted the highest honor of the Department of the Interior, the Distinguished Service Award.

Congratulations to **Bill** for his many contributions to science and to the USGS. ❁

Marlene Noble Receives Superior Service Award for Contributions to Mentoring at USGS

By Helen Gibbons

U.S. Geological Survey (USGS) scientist **Marlene Noble** was awarded the Department of the Interior's Superior Service Award at the USGS' 2002 Western Region Awards Ceremony held on September 24 in Menlo Park, CA. Although she could not attend the ceremony, **Marlene** received a warm round of applause as Western Regional Director **Doug Buffington** read the following summary of **Marlene's** citation:

Marlene has made outstanding achievements in her career as a USGS scientist, but today we want to especially recognize her efforts to help other scientists advance their careers by serving as a mentor. **Marlene's** service on the Women's Advisory Committee coincided with a time of significant change in the bureau regarding the recognition of women's issues and of diversity issues. Her leadership and advice proved invaluable. It is a special pleasure to recognize **Marlene's** efforts in developing a mentoring program that has significantly contributed to the strength and core competency of the USGS by creating a responsive, flexible, and multidisciplinary workforce. And, of course, she has served as a mentor herself, directly enhancing the careers of several colleagues. ❁

Superior Service Award to Florence Wong for Leading Coastal and Marine Geology Team's GIS Efforts

By Helen Gibbons

***Florence Wong**, recipient of Superior Service Award.*

U.S. Geological Survey (USGS) scientist **Florence Wong** received the Department of the Interior's Superior Service Award at the USGS' 2002 Western Region Awards Ceremony on September 24 in Menlo Park, CA.

Florence was honored for her leadership in incorporating geographic information systems (GIS) into the work of the Coastal and Marine Geology team in the Western Region. During the presentation, Western Regional Director **Doug Buffington** summarized **Florence's** citation as follows:

> **Florence's** research with geographic information systems as applied to marine-geology scientific problems has helped the entire Western Coastal and Marine Geology team advance rapidly into this important field. She was not only the first team member to recognize the capabilities of GIS, but she also continues to be a leader and guiding spirit behind the team's GIS efforts. **Ms. Wong** has brought to her work exemplary personal and professional qualities that result in excellent products and fine teamwork. She is also a recognized expert in studies that determine sediment-distribution patterns, information vital for resource managers along the California coast.

Sue Hunt Receives Environmental Champion Award for Recycling Efforts

By Helen Gibbons

On September 24, U.S. Geological Survey (USGS) employee **Sue Hunt** was awarded the Environmental Champion Award at the USGS' 2002 Western Region Awards Ceremony in Menlo Park, CA. Granted by the USGS Safety and Environmental Program, the award recognizes **Sue's** leadership in recycling efforts at the USGS' Menlo Park campus.

Sue could not be present to receive her award, but the audience applauded warmly as Western Regional Director **Doug Buffington** read the following summary of her citation:

> **Sue** is recognized for her nomination for the 2001 White House Closing the Circle Award. [See articles in June and July 2001 issues of *Sound Waves*.] She personally developed and maintains the USGS "Supply Exchange" program in Menlo Park, allowing employees to drop off and pick up unwanted but still-usable supplies. This program is now an essential part of the campus culture, saving not only landfill space and trash-collection fees, but also reducing new procurement costs and conserving government resources. **Sue** has ensured that items no longer in demand by USGS are made available to local schools and nonprofit organizations, saving scarce educational funds and generating immeasurable goodwill. Through her efforts, this program serves as a model for the reuse and recycling of resources.

Ellen Mecray Receives Safety Award for Leadership as Woods Hole Field Center's Lab Manager

By Debbie Hutchinson

The U.S. Geological Survey (USGS)'s Safety and Environmental Branch awarded **Ellen Mecray** the Individual Safety, Health, and Environmental Achievement Award, which was presented to her in early August. This award recognizes **Ellen's** outstanding leadership as laboratory manager at the Woods Hole Field Center (WHFC), a position she began in late 1999, serving initially as the acting manager and becoming the permanent manager in 2000. Since that time, **Ellen** has worked diligently and energetically to make safety and environmental health a part of the daily routine in the laboratories and in the work place. The many achievements and changes that have happened in Woods Hole cover areas that range from improved laboratory analytical strategies to expanded first-aid/CPR certification. **Ellen** has facilitated personnel and leadership training, as well as enhancing fire-safety procedures and updating all safety documents. Congratulations, **Ellen**, for improving the quality of the workplace environment!

***Ellen Mecray** takes a subsample from sediment collected in Long Island Sound on the research vessel* Connecticut *in November 1999 for toxicity tests. Gloves protect **Ellen** and the sample from contamination. As laboratory manager at WHFC, **Ellen** recently won the USGS Safety and Environmental Branch's Individual Safety, Health, and Environmental Achievement Award.*

Woods Hole Field Center Staff Makes a Fine Showing in the 30th Annual Falmouth Road Race

By Richard S. Williams, Jr.

Seven members of the Woods Hole Field Center staff participated in the 30th Annual Falmouth Road Race on August 11, 2002: **Sandy Baldwin**, **Michael Casso**, **Jeff List**, **Kelle List**, **Ellen Mecray**, **Chris Sherwood**, and **Richie Williams**. The scenic race route covers 7.1 miles from Woods Hole to Falmouth Heights; this 30th annual race was held under a cloudless sky in hot weather. **Jeff List** had the best time (45:18) and placed 211th out of 7,451 runners, an outstanding effort for a Masters Class runner. **Richie Williams** was the Falmouth-Resident Age-Group Champion for 60- to 64-year olds, the third year in a row that he has won the award for that age group. Our congratulations to all these fine runners!

Ginger Barth Joins the Coastal and Marine Geology Team in Menlo Park, CA

By Jon Childs

The Western Region Coastal and Marine Geology team welcomed the addition of **Ginger Barth** in August. **Ginger** is a marine geophysicist with extensive experience in seismic-reflection seismology. She has degrees from Texas A&M (B.S.) and Columbia's Lamont-Doherty Earth Observatory (M.A. and Ph.D.), where she worked with **John Mutter** on studies of the structure and evolution of the East Pacific Rise and the Clipperton Fracture Zone. **Ginger** has more recently worked at Stanford University with **Simon Klemperer** and **Norm Sleep**, and at the University of California, Santa Cruz, where she taught reflection seismology with **Casey Moore**.

Ginger will be working under the auspices of the Law of the Sea project. Initially, she will collaborate with **Dave Scholl** (who has returned to the Coastal and Marine Geology team as an emeritus scientist) and **Jon Childs** on issues pertaining to methane-gas deposits and the sedimentary environment of the abyssal Bering Sea basin. **Ginger** is stationed in Menlo Park, CA. If you're in town, stop by her office (Rm. 1263 in Building 1) and welcome her.

***Ginger Barth** joined the Western Region Coastal and Marine Geology team in August.*

Woods Hole Field Center's Joanne Sedlock Hits the Road to Benefit Multiple Sclerosis

By Ellen Mecray, Gail Sexton, and Janet Paquette

It's end-of-fiscal-year closeout, and the administrative staff is working hard to make ends meet, but where is **Joanne Sedlock**? She's walking, over the course of 3 days (Sept. 13-15, 2002), to benefit patients diagnosed with multiple sclerosis (MS). Does anyone know how long it takes to WALK FIFTY MILES?! The Woods Hole Field Center salutes you, **Joanne**!

Dave Twitchell Leaves Woods Hole (Temporarily) for the University of Nevada

By VeeAnn Cross

On September 7, U.S. Geological Survey (USGS) scientist **Dave Twichell** left Woods Hole, MA, for Las Vegas, NV, where he will spend the next 8 months working at the University of Nevada, Las Vegas (UNLV). Geophysical mapping in Lake Mead over the past 3 years has provided **Dave** with exciting information on turbidite sedimentation. He will be working on recently collected cores, as well as collecting additional cores in the lake. The collaborative research with geologists and geochemists from UNLV and St. Thomas University (Minneapolis, MN) led to the decision for **Dave** to go to Nevada to work on the cores rather than bringing the cores and collaborators to the USGS' Woods Hole Field Center. **Dave's** presence in Woods Hole will be greatly missed. We wish him the best of luck in his research on his beloved turbidites and look forward to his return in May 2003.

Summer of Softball at USGS' Woods Hole Field Center

By Bill Waite

August 20 marked the last U.S. Geological Survey (USGS) game of the 2002 Woods Hole Oceanographic Institute Summer Softball season. Mirroring the Woods Hole Field Center's state of leadership flux, the USGS team had a series of "Acting Team Chief Captains," including **Joel Moore**, **Debbie Hutchinson**, and **Bill Waite**. This year's squad, known more for its entertainment value than its athletic prowess, put it all together in the final game to muster a heroic one-run victory against the determined Townies. **Debbie Hutchinson's** son, **Matt Gove,** provided the game-winning hit, and our Mendenhall Rookie, Australian **David Stolper**, sealed the win with two consecutive putouts at second base.

There are no strikeouts in this league, and we mercifully don't keep track of fielding errors or other niggling details, like wins and losses, so if you're visiting the Woods Hole Field Center next summer, join us! What we lack in skill we more than make up for in enthusiasm and good humor. Mitts are optional, but sunglasses are recommended.

Missing from the photograph are the rest of the large and illustrious team: **Cat Albert**, **Takitta Childress**, **Chuck Denham**, **Chris Lyon**, **Chris Polloni**, **Jen Moore**, **Joel Moore**, **Joanne Sedlock**, **John Warner**, **Larry Poppe**, **Mark Capone**, **Becky Deusser**, **Bill Condon**, **Kristen McKee**, and **Marcie Palmer**.

A USGS victory! From left to right, front row: ***Sandy Baldwin, Greg Booma, Steven Griffey, Seth Ackerman, Dirk Koopmans.*** *Middle row:* ***Matt Gove, David Stolper, Glynn Williams.*** *Back row:* ***Troy Currence, Debbie Hutchinson, Chris Lyon, Bill Waite, Matt Wander, Fausto Marincioni.***

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